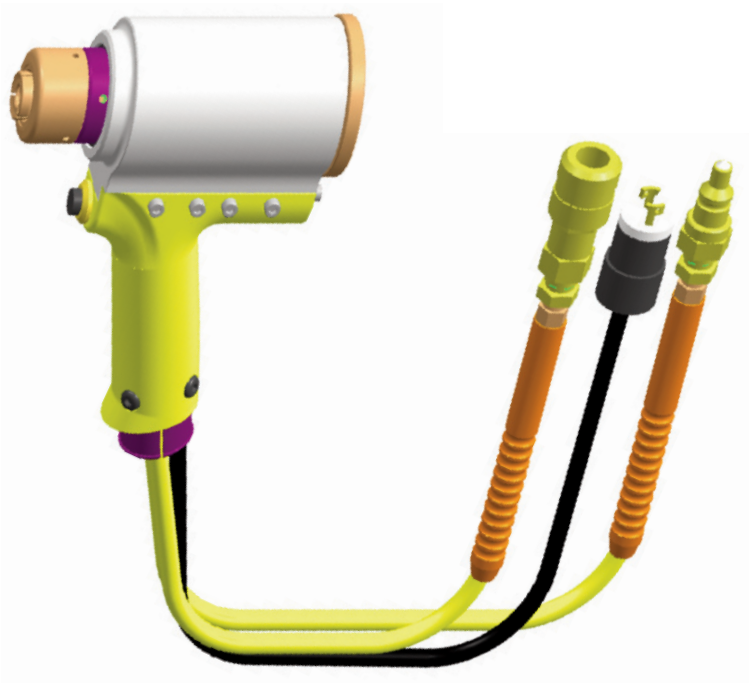
Alcoa Fastening Systems

ALCOA

INSTRUCTION MANUAL

BOBTAIL® *INSTALLATION SYSTEM*

SFBTT20-DT



Makers of Huck®, Marson®, Recoil®
Brand Fasteners, Tools & Accessories

12-05-2013
HK1118

HUCK®

EC Declaration of Conformity

Manufacturer:
Huck International, LLC, Industrial Products Group, 1 Corporate Drive, Kingston, NY, 12401, USA

Description of Machinery:
Models SFBTT 8, 15, 20, 32, 46 families of installation tools and specials based on their designs (e.g. PR#####).

Relevant provisions complied with:
Council Directive related to Machinery (2006/42/EC)
British Standard related to hand held, non-electric power tools (ISO 11148-1:2011)

European Representative:
Rob Pattenden, Huck International, Ltd. Unit C Stafford Park 7, Telford Shropshire TF3 3BQ, England, United Kingdom

Authorized Signature/date:
I, the undersigned, do hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Signature:

Full Name: Robert B. Wilcox

Position: Engineering Manager

Location: Huck International, LLC d/b/a Alcoa Fastening Systems
Kingston, New York, USA

Date: 04/12/2013 *(December 4, 2013)*

ALCOA HUCK

Declared dual number noise emission values in accordance with ISO 4871
A weighted sound power level, LWA: **71** dB (reference 1 pW) Uncertainty, KWA: 3 dB
A weighted emission sound pressure level at the work station, LpA: **60** dB (reference 20 µPa) Uncertainty, KpA: 3 dB
C-weighted peak emission sound pressure level, LpC, peak: **100** dB (reference 20 µPa) Uncertainty, KpC: 3 dB
Values determined according to noise test code ISO 15744, using as basic standards ISO 3744 and ISO 11203. The sum of a measured noise emission value and its associated uncertainty represents an upper boundary of the range of values which is likely to occur in measurements.

Declared vibration emission values in accordance with EN 12096	
Measured Vibrations emission value, *a*:	**.52** m/s^2
Uncertainty, K:	**.08** m/s^2
Values measured and determined according to ISO 28662-1, ISO 5349-2, and EN 1033	

Test data to support the above information is on file at Alcoa Fastening Systems, Industrial Products Group, Kingston Operations, Kingston, NY, USA.

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Safety Instructions

GLOSSARY OF TERMS AND SYMBOLS:

- Product complies with requirements set forth by the relevant European directives.
- **READ MANUAL** prior to using this equipment.
- **EYE PROTECTION IS REQUIRED** while using this equipment.
- **HEARING PROTECTION IS REQUIRED** while using this equipment.

WARNINGS: Must be understood to avoid severe personal injury.

CAUTIONS: show conditions that will damage equipment and or structure.

Notes: are reminders of required procedures.
***Bold, Italic type and underlining*: emphasizes a specific instruction.**

I. GENERAL SAFETY RULES:

1. A half hour long hands-on training session with qualified personnel is recommended before using Huck equipment.
2. Huck equipment must be maintained in a safe working condition at all times. Tools and hoses should be inspected at the beginning of each shift/day for damage or wear. Any repair should be done by a qualified repairman trained on Huck procedures.
3. For multiple hazards, read and understand the safety instructions before installing, operating, repairing, maintaining, changing accessories on, or working near the assembly power tool. Failure to do so can result in serious bodily injury.
4. Only qualified and trained operators should install, adjust or use the assembly power tool.
5. Do not modify this assembly power tool. This can reduce effectiveness of safety measures and increase operator risk.
6. Do not discard safety instructions; give them to the operator.
7. Do not use assembly power tool if it has been damaged.
8. Tools shall be inspected periodically to verify all ratings and markings required, and listed in the manual, are legibly marked on the tool. The employer/operator shall contact the manufacturer to obtain replacement marking labels when necessary. Refer to assembly drawing and parts list for replacement.
9. Tool is only to be used as stated in this manual. Any other use is prohibited.
10. Read MSDS Specifications before servicing the tool. MSDS specifications are available from the product manufacturer or your Huck representative.
11. Only genuine Huck parts shall be used for replacements or spares. Use of any other parts can result in tooling damage or personal injury.
12. Never remove any safety guards or pintail deflectors.
13. Never install a fastener in free air. Personal injury from fastener ejecting may occur.
14. Where applicable, always clear spent pintail out of nose assembly before installing the next fastener.
15. Check clearance between trigger and work piece to ensure there is no pinch point when tool is activated. Remote triggers are available for hydraulic tooling if pinch point is unavoidable.
16. Do not abuse tool by dropping or using it as a hammer. Never use hydraulic or air lines as a handle or to bend or pry the tool. Reasonable care of installation tools by operators is an important factor in maintaining tool efficiency, eliminating downtime, and preventing an accident which may cause severe personal injury.
17. Never place hands between nose assembly and work piece. Keep hands clear from front of tool.
18. Tools with ejector rods should never be cycled with out nose assembly installed.
19. When two piece lock bolts are being used always make sure the collar orientation is correct. See fastener data sheet for correct positioning.

II. PROJECTILE HAZARDS:

1. Risk of whipping compressed air hose if tool is pneudraulic or pneumatic.
2. Disconnect the assembly power tool from energy source when changing inserted tools or accessories.
3. Be aware that failure of the workpiece, accessories, or the inserted tool itself can generate high velocity projectiles.
4. Always wear impact resistant eye protection during tool operation. The grade of protection required should be assessed for each use.
5. The risk of others should also be assessed at this time.
6. Ensure that the workpiece is securely fixed.
7. Check that the means of protection from ejection of fastener or pintail is in place and operative.
8. There is possibility of forcible ejection of pintails or spent mandrels from front of tool.

III. OPERATING HAZARDS:

1. Use of tool can expose the operator's hands to hazards including: crushing, impacts, cuts, abrasions and heat. Wear suitable gloves to protect hands.
2. Operators and maintenance personnel shall be physically able to handle the bulk, weight and power of the tool.
3. Hold the tool correctly and be ready to counteract normal or sudden movements with both hands available.
4. Maintain a balanced body position and secure footing.
5. Release trigger or stop start device in case of interruption of energy supply.
6. Use only fluids and lubricants recommended by the manufacturer.
7. Avoid unsuitable postures, as it is likely for these not to allow counteracting of normal or unexpected tool movement.
8. If the assembly power tool is fixed to a suspension device, make sure that fixation is secure.
9. Beware of the risk of crushing or pinching if nose equipment is not fitted.

IV. REPETITIVE MOTION HAZARDS:

1. When using assembly power tool, the operator can experience discomfort in the hands, arms, shoulders, neck or other parts of the body.
2. When using tool, the operator should adopt a comfortable posture while maintaining a secure footing and avoid awkward or off balanced postures.
3. The operator should change posture during extended tasks to help avoid discomfort and fatigue.
4. If the operator experiences symptoms such as persistent or recurring discomfort, pain, throbbing, aching, tingling, numbness, burning sensations or stiffness, these warnings should not be ignored. The operator should tell the employer and consult a qualified health professional.

V. ACCESSORIES HAZARDS:

1. Disconnect tool from energy supply before changing inserted tool or accessory.
2. Use only sizes and types of accessories and consumables that are recommended. Do not use other types or sizes of accessories or consumables.

VI. WORKPLACE HAZARDS:

1. Be aware of slippery surfaces caused by use of the tool and of trip hazards caused by the air line or hydraulic hose.
2. Proceed with caution while in unfamiliar surroundings; there could be hidden hazards such as electricity or other utility lines.
3. The assembly power tool is not intended for use in potentially explosive environments.
4. Tool is not insulated against contact with electrical power.
5. Ensure there are no electrical cables, gas pipes, etc., which can cause a hazard if damaged by use of the tool.

VII. NOISE HAZARDS:

1. Exposure to high noise levels can cause permanent, disabling hearing loss and other problems such as tinnitus, therefore risk assessment and the implementation of proper controls is essential.
2. Appropriate controls to reduce the risk may include actions such as damping materials to prevent workpiece from 'ringing'.
3. Use hearing protection in accordance with employer's instructions and as required by occupational health and safety regulations.
4. Operate and maintain tool as recommended in the instruction handbook to prevent an unnecessary increase in the noise level.
5. Select, maintain and replace the consumable / inserted tool as recommended to prevent an unnecessary increase in noise.
6. If the power tool has a silencer, always ensure that it is in place and in good working order when the tool is being operated.

VIII. VIBRATION HAZARDS:

1. Exposure to vibration can cause disabling damage to the nerves and blood supply to the hands and arms.
2. Wear warm clothing when working in cold conditions and keep hands warm and dry.
3. If numbness, tingling, pain or whitening of the skin in the fingers or hands, stop using the tool, tell your employer and consult a physician.
4. Support the weight of the tool in a stand, tensioner or balancer in order to have a lighter grip on the tool.

X. HYDRAULIC TOOL SAFETY INSTRUCTIONS:

1. Do not exceed maximum pressure setting stated on tool.
2. Carry out a daily check for damaged or worn hoses or hydraulic connections and replace if necessary.
3. Use only clean oil and filling equipment.
4. Power units require a free flow of air for cooling purposes and should therefore be positioned in a well ventilated area free from hazardous fumes.
5. Ensure that couplings are clan and correctly engaged before operation.
6. Do not inspect or clean the tool while the hydraulic power source is connected. Accidental engagement of the tool can cause serious injury.
7. Be sure all hose connections are tight.
8. Wipe all couplers clean before connecting. Failure to do so can result in damage to the quick couplers and cause overheating.

Principle of Operation

The operator pushes the Tool's Nose over the end of the fastener until the Tool's Puller bottoms on the fastener. When the Tool's Limit Switch Rod makes contact with the end of the fastener, the Limit Switch in the back of the Tool is activated. When the trigger is pressed, the rig receives a signal to swage the fastener. The Piston moves back to start the swaging process. After the fastener is fully swaged, the operator must release the trigger, at which point the Tool's Anvil is ejected off of the collar and the Tool is released from the fastener.

Specifications

Power Source: Huck POWERIG Hydraulic Unit

Hose Kits: Use only genuine HUCK Hose Kits rated @ 10,000 psi working pressure.

Hydraulic Fluid: ATF meeting DEXRON III, DEXRON IV, MERCON, Allison C-4 or equivalent specifications.

Fire resistant hydraulic fluid may also be used, and is required to comply with OSHA regulation 1926.302 paragraph (d): "the fluid used in hydraulic power tools shall be fire resistant fluid approved under schedule 30 of the US Bureau of Mines, Department of Interior, and shall retain its operating characteristics at the most extreme temperatures to which it will be exposed."

Max Operating Temp: 125 ° F (*51.7 ° C*)

Max Flow Rate: 2 gpm (*7.6 l/m*)

Max Inlet Pull Pressure: 7,000 psi, (*483 bar*)

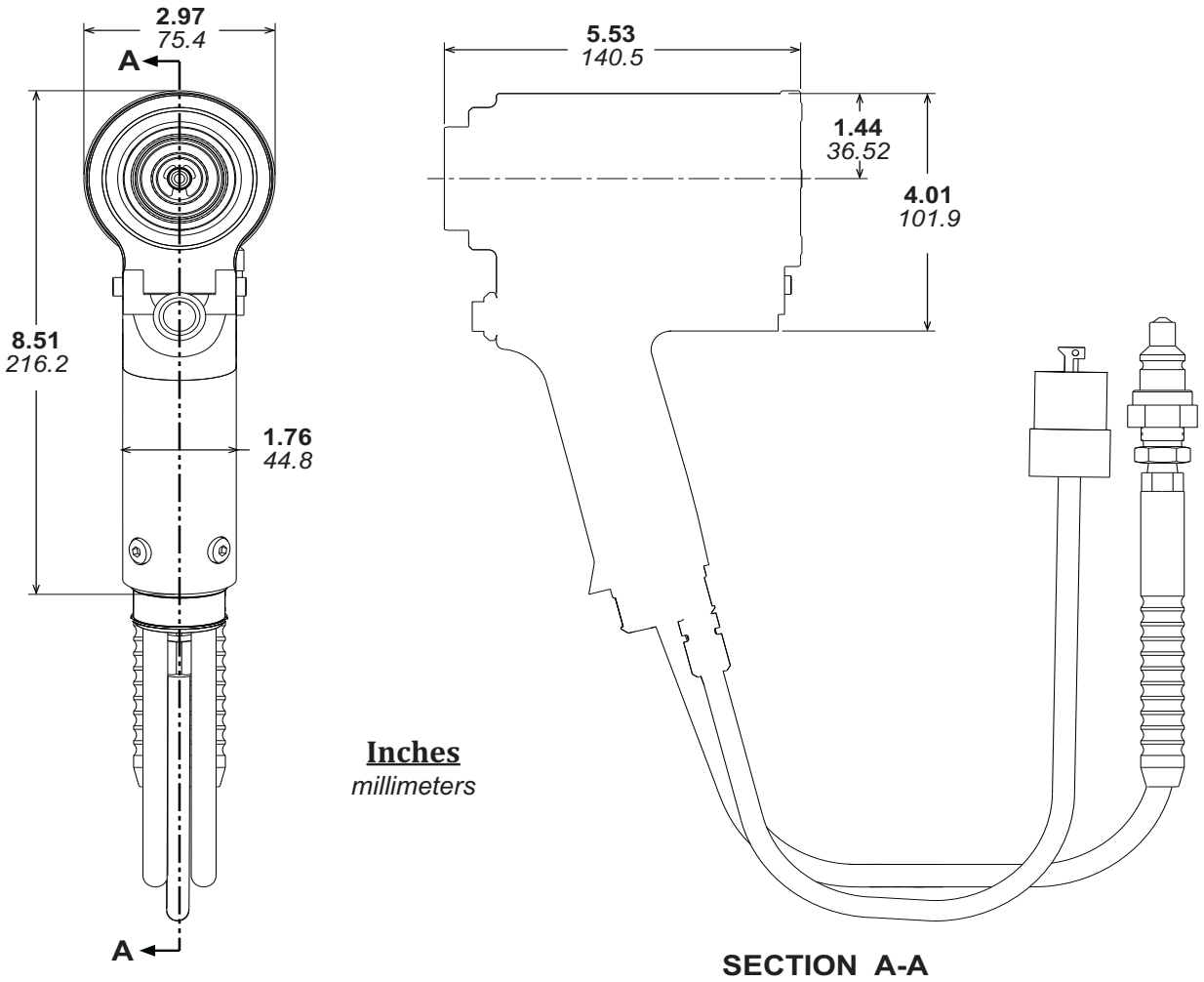
Max Inlet Return Pressure: 5,000 psi, (*345 bar*)

Pull Capacity: 20,650 lbf (*92 KN*)

Return Capacity: 9,500 lbf (*42 KN*)

Stroke: 2.00 inches (*5.08 cm*)

Weight: 8.5 lbs (*3.85 kg*)



Preparation for Use

WARNINGS:
Read full manual before using tool.

A half-hour training session with qualified personnel is recommended before using Huck equipment.

When operating Huck installation equipment, always wear approved eye protection.

Be sure there is adequate clearance for the operator's hands before proceeding.

CAUTION: Hose couplers must be completely screwed together to insure that ball checks in both nipple and body are completely open. Improperly assembled couplers will cause overheating and malfunctions in both tool and Powerig. Hand tighten couplers. Do NOT use a pipe wrench.

CAUTION: Do not let disconnected hoses and couplers contact a dirty floor. Keep harmful material out of hydraulic fluid. Dirt in hydraulic fluid causes valve failure In Tool and In POWERIG Hydraulic Unit.

POWER SOURCE CONNECTIONS

Coat hose fitting threads with a non-hardening Teflon™ thread compound such as Slic-tite.™ (Slic-tite is available from Huck as part number 503237.)

CAUTION: Do not use TEFLON®* tape on pipe threads. Pipe threads may cause tape to shred resulting in tool malfunction. (Slic-Tite is available in stick form as Huck P/N 503237.)

WARNING: Correct PULL and RETURN pressures are required for operator's safety and for Installation Tool's function. Gauge Set-Up, T-124833 and T-124833CE, Is available for checking pressures. See Tool Specifications and Gauge Instruction Manual. Failure to verify pressures may result in severe personal injury.

WARNING: Be sure to connect Tool's hydraulic hoses to POWERIG Hydraulic Unit before connecting Tool's switch control cord to unit. If not connected in this order, severe personal Injury may occur.

2. Use only a Huck POWERIG 918, 940, or equivalent that has been prepared for operation per applicable instruction manual. Cheek both PULL and RETURN pressures and adjust as necessary to match installation tool. Gage part number T-124833(new), for checking POWERIG pressures is available from Huck.

3. Turn POWERIG to "OFF" and couple tool hoses to POWERIG hoses.

5. Turn POWERIG to "ON" and depress and release trigger a few times to circulate hydraulic fluid. Observe action of tool. Check for fluid leaks.

6. Attach the proper Nose Assembly to the tool.

Tool to Powerig Setup

WARNING: To prevent tripping hazard, suspend tools and route hoses off of floors.

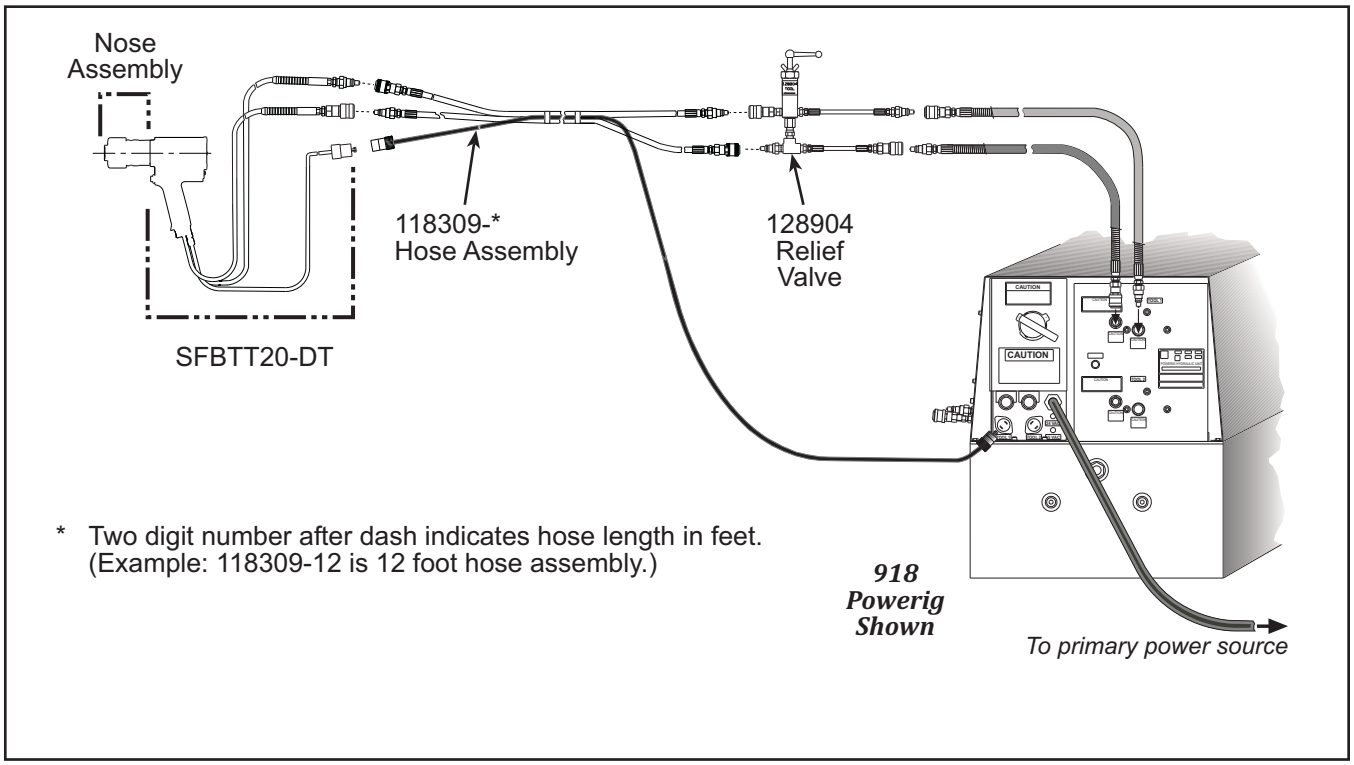
WARNING: Only use compatible equipment with this tool.

NOTE: To decrease Relief Valve pressure, turn the Relief Valve handle gradually counterclockwise; turn clockwise to increase pressure.

1. With the Nose Assembly in place on the Installation Tool, begin setup. First connect the Hydraulic Hoses to the Powerig.
2. Connect Relief Valve 128904 to the other end of the Powerig Hydraulic Hoses.
3. Connect 118309- Hose Assy to the Relief Valve (Tool Side).
4. Connect the other end of the 118309- Hose Assy to the installation tool.
5. Connect the Power Cord from the Tool to the 118309- Hose Assembly.
6. Connect the Power Cord from the Hose Assembly to the Powerig.
7. Set Pull and Return pressures on Powerig and Relief Valve using Huck Gage P/N: T-124833CE and **Table 1**.
8. Once the system is set up, install test fastener. Check to be sure that the fastener is installed correctly. This can be checked by inspecting the dimples on the collar flange. At least one dimple should be marked by the anvil.

Table 1 - Pressure Settings

Fastener Size	Fastener Grade	Powerig PULL Pressure Setting, psi		Powerig RETURN Pressure Setting, psi	Optional Relief Valve 128904 Setting, psi
		WHEN USING OPTIONAL RELIEF VALVE 128904	*WHEN NOT USING OPTIONAL RELIEF VALVE 128904*		
12mm	8	7500	4400	4500	4400
14mm	8	7500	5900	4500	5900
5/8" / 16mm	8	7500	6100	4500	6100
1/2"	5	7500	2900	2600	2900



* Two digit number after dash indicates hose length in feet. (Example: 118309-12 is 12 foot hose assembly.)

Operating Instructions:

WARNING: To avoid pinch point, never place hand between nose assembly and work piece.

WARNING: Only use compatible equipment with this tool.

1. Push the tool's nose over the end of the fastener until it bottoms out.
2. Press the trigger and hold until the collar is swaged and the tool's Anvil is ejected off the collar and the tool is released from the fastener.

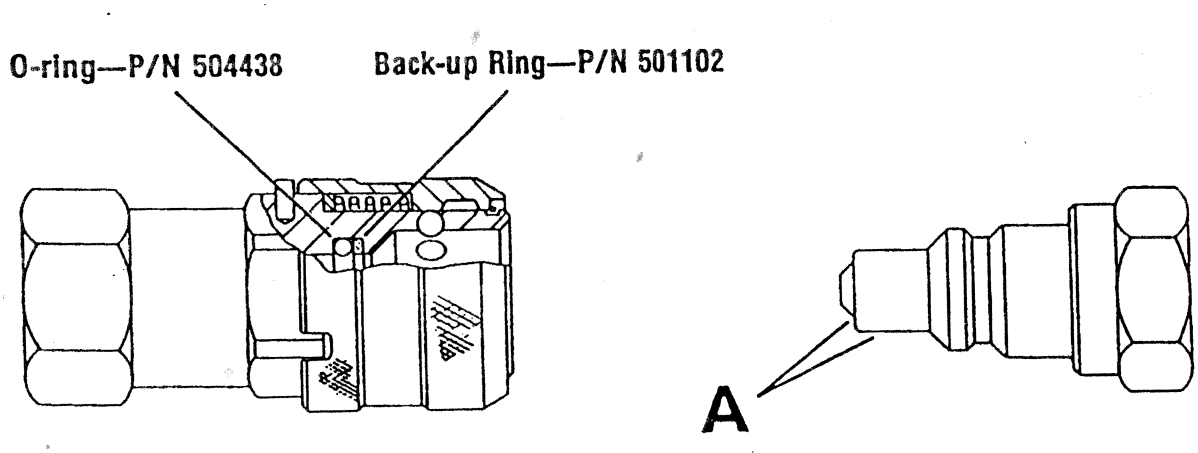
Wrenching-up of Pipe Threads

The following table pertains to 1/8, 1/4, and 3/8 NPTF joints in this product. All turn counts listed are beyond hand-tight. Teflon stick or equivalent (NOT tape) must be used without exception.

Table 2 - Wrenching-up of Pipe Threads

Pipe Thread Size	Number of Turns
1/8 NPTF	2 - 2 1/4
1/4 NPTF	1 1/2 - 1 3/4
3/8 NPTF	1 1/2 - 1 3/4

Hydraulic Couplings



Use a fine India stone to remove any nicks or burrs from diameter A and leading edge, to prevent damage to O-ring.

MAINTENANCE

CAUTIONS:
- ***Consult MSDS before servicing tool.***
- ***Keep dirt and other material out of hydraulic system.***
- ***Separated parts most be kept away from dirty work surfaces.***
- ***Dirt/debris in hydraulic fluid causes failure in POWERIG® Hydraulic Unit's valves.***

WARNING: Inspect tool for damage or wear before each use. Do not operate if damaged or worn, as severe personal injury may occur.

- *The efficiency and life of your tool depends on proper maintenance. Please read this section completely before proceeding with maintenance and repair. Use proper hand tools in a clean and well-lighted area. Only standard hand tools are required in most cases. Where a special tool is required, the description and part number are given.*
- *While clamping tool or parts in a vise, and when parts require force, use suitable soft materials to cushion impact. For example, using a half-inch brass drift, wood block and vise with soft jaws greatly reduces possibility of damaging tool. Remove components in a straight line without bending, cocking or undue force. Reassemble tool with the same care*

Sealants, Lubricants, Service Kits

- See **SPECIFICATIONS** for fluid type. Dispose of fluid in accordance with local environmental regulations. Recycle steel, aluminum, and plastic parts in accordance with local lawful and safe practices.
- Rub Slic-Tite®* with PTFE thread compound, or equivalent, on pipe plug threads and quick connect fitting.

CAUTION: Do not use TEFLON®* tape on pipe threads. Pipe threads may cause tape to shred resulting in tool malfunction. (Slic-Tite®* is available in stick form as Huck P/N 503237.)

- Smear LUBRIPLATE® 13OAA*, or equivalent lubricant, on O-Rings and mating surfaces to aid assembly and to prevent damage to O-Rings. (LUBRIPLATE 13O-AA is available in a tube as Huck P/N 502723.)
- Each Service Kit contains perishable parts for your specific tool. As foreseeable use may indicate, keep extra kits (O-rings, Back-up Rings, other standard items) and tool parts in stock. When stock is depleted, you can get kit items from any regular retailer of these items. See kit parts list for: O-ring size (AS568- number); material; durometer.

PREVENTIVE MAINTENANCE

System Inspection

Operating efficiency of the tool is directly related to the performance of the complete system, including the tool with nose assembly, hydraulic hoses, trigger and control cord, and POWERIG. Therefore, an effective preventive maintenance program includes scheduled inspections of the system to detect and correct minor troubles. At the beginning of each shift/day:

- Inspect tool and nose assembly for external damage.
- Verify that hydraulic hose fittings, couplings, and electrical connections are secure.
- Inspect hydraulic hoses for damage and deterioration. Do not use hoses to carry tool. Replace hoses if damaged.
- Observe tool, hoses, and hydraulic unit during operation to detect abnormal heating, leaks, or vibration.
- Max hydraulic fluid contamination level: NAS 1638 class 9, or ISO CODE 18/15, or SAE level 6.

POWERIG Maintenance

Maintenance instructions and repair procedures are in the appropriate POWERIG Instruction Manual.

Tool Maintenance

Whenever disassembled and also at regular intervals (depending on severity and length of use), replace all seals, wipers, and back-up rings in tool. Service Kits, hoses, and extra parts should be kept in stock. Inspect cylinder bore, pistons, and piston rods for scored surfaces and excessive wear or damage. Replace as necessary.

CAUTION: Always replace seals, wipers, and back-up rings when tool is disassembled for any reason.

Nose Assembly Maintenance

Clean nose assembly often. Dip in mineral spirits or similar solvent to clean puller and wash away metal chips and debris. At regular intervals, as experience shows, disassemble nose and use a sharp "pick" to remove imbedded particles from grooves of puller.

* *DEXRON is a registered trademark of General Motors Corp.*
Quintolubric is a registered trademark of Quaker Chemical Corp.
Slic-Tite is a registered trademark of LA-CO Industries, Inc.
TEFLON is a registered trademark of DuPont Corp.
LUBRIPLATE is a registered trademark of Fiske Brothers Refining Co.

Tool Assembly Parts List

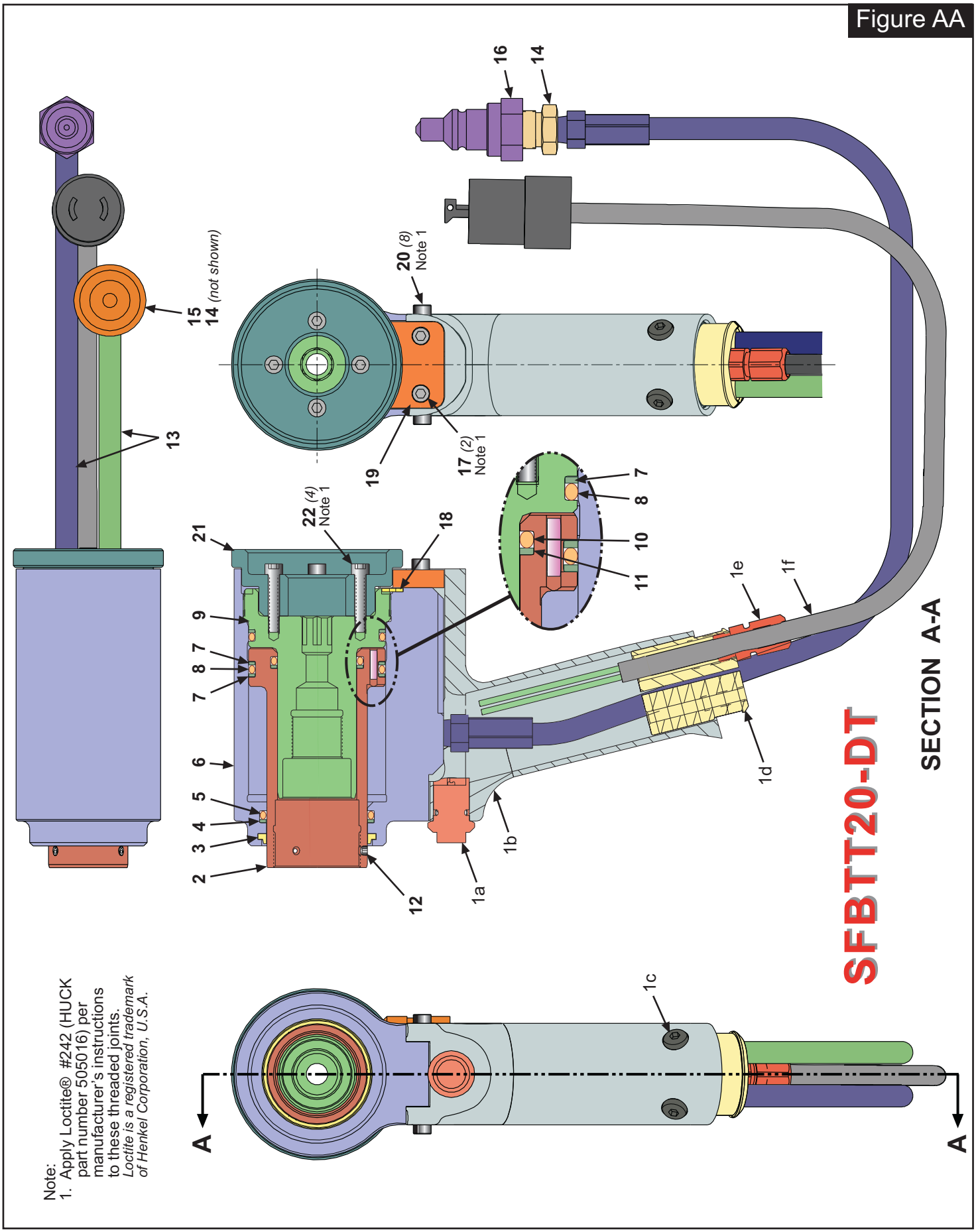
(Figure AA)

Item	Description	SFBTT20-DT	Qty.	
1	**Handle Assembly**	129081	**1**	
1a	Trigger Switch Assy	120361	1	
1a1	*Trigger Switch*	*128743*	*1*	
1a2	*O-Ring*	*500779*	*1*	
1b	Handle	129017	1	
1c	Button Head Screw	502489	4	
1d	Clamp Guide	128838	1	
1e	Strain Relief Assy	505344	1	
1f	Cord Assembly	128938	1	
2 *	**Piston Assembly**	**128837**	**1**	
3	**Wiper**	**506067**	**1**	✓
4	**Back-up Ring**	**501151**	**1**	✓
5	**O-Ring**	**506089**	**1**	✓
6 *	**Cylinder Assembly**	**128978**	**1**	
7	**Back-up Ring**	**501154**	**3**	✓
8	**O-Ring**	**503850**	**2**	✓
9	**End Cap**	**128976**	**1**	
10	**O-Ring**	**506619**	**1**	✓
11	**Back-up Ring**	**501147**	**1**	✓
12	**Set Screw**	**501780**	**3**	
13	**Hydraulic Hose**	**118944-2**	**2**	
14	**Hex Reducing Bushing**	**503431**	**2**	
15	**Female Coupler**	**110439**	**1**	
16	**Male Coupler**	**110438**	**1**	
17	**Cap Screw**	**500062**	**2**	
18	**Locking Disc**	**122764**	**1**	
19	**Locking Disc Cover**	**128979**	**1**	
20	**Cap Screw**	**500061**	**8**	
21	**End Cap Cover**	**128977**	**1**	
22	**Cap Screw**	**500065**	**4**	

✓ ***These parts are also included in the tool Service Kit (see Kits and Accessories) for each tool.***

* ***When replacing these parts, the assembly must be ordered. The individual sub-components are not sold separately.***

Figure AA



Note:
1. Apply Loctite® #242 (HUCK part number 505016) per manufacturer's instructions to these threaded joints. *Loctite is a registered trademark of Henkel Corporation, U.S.A.*

Optional Equipment

To maintain CE conformity, only CE compatible equipment should be used with these tools. Installation tools and nose assemblies are the only CE components unless otherwise noted. Controls and other hardware shown in the manual are for domestic use only.

Service Kit - **BTT20SFKIT**

Teflon Stick - **503237**

Loctite* 242 - **505016**
**Loctite is a trademark of Henkel Corporation, U.S.A.*

Anti-seize Lubricant - **508183**

Hose Cable Extension Assy - **128461-(*length*)**

Limited Warranties

Tooling Warranty:

Huck warrants that tooling and other items (excluding fasteners, and hereinafter referred as "other items") manufactured by Huck shall be free from defects in workmanship and materials for a period of ninety (90) days from the date of original purchase.

Warranty on "non standard or custom manufactured products":

With regard to non-standard products or custom manufactured products to customer's specifications, Huck warrants for a period of ninety (90) days from the date of purchase that such products shall meet Buyer's specifications, be free of defects in workmanship and materials. Such warranty shall not be effective with respect to non-standard or custom products manufactured using buyer-supplied molds, material, tooling and fixtures that are not in good condition or repair and suitable for their intended purpose.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. HUCK MAKES NO OTHER WARRANTIES AND EXPRESSLY DISCLAIMS ANY OTHER WARRANTIES, INCLUDING IMPLIED WARRANTIES AS TO MERCHANTABILITY OR AS TO THE FITNESS OF THE TOOLING, OTHER ITEMS, NONSTANDARD OR CUSTOM MANUFACTURED PRODUCTS FOR ANY PARTICULAR PURPOSE AND HUCK SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECTLY OR INDIRECTLY, ARISING FROM THE USE OF SUCH TOOLING, OTHER ITEMS, NONSTANDARD OR CUSTOM MANUFACTURED PRODUCTS OR BREACH OF WARRANTY OR FOR ANY CLAIM FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Huck's sole liability and Buyer's exclusive remedy for any breach of warranty shall be limited, at Huck's option, to replacement or repair, at FOB Huck's plant, of Huck manufactured tooling, other items, nonstandard or custom products found to be defective in specifications, workmanship and materials not otherwise the direct or indirect cause of Buyer supplied molds, material, tooling or fixtures. Buyer shall give Huck written notice of claims for defects within the ninety (90) day warranty period for tooling, other items, nonstandard or custom products described above and Huck shall inspect products for which such claim is made.

Tooling, Part(s) and Other Items not manufactured by Huck:

HUCK MAKES NO WARRANTY WITH RESPECT TO THE TOOLING, PART(S) OR OTHER ITEMS MANUFACTURED BY THIRD PARTIES. HUCK EXPRESSLY DISCLAIMS ANY WARRANTY EXPRESSED OR IMPLIED, AS TO THE CONDITION, DESIGN, OPERATION, MERCHANTABILITY OR FITNESS FOR USE OF ANY TOOL, PART(S), OR OTHER ITEMS THEREOF NOT MANUFACTURED BY HUCK. HUCK SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, DIRECTLY OR INDIRECTLY, ARISING FROM THE USE OF SUCH TOOLING, PART(S) OR OTHER ITEMS OR BREACH OF WARRANTY OR FOR ANY CLAIM FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

The only warranties made with respect to such tool, part(s) or other items thereof are those made by the manufacturer thereof and Huck agrees to cooperate with Buyer in enforcing such warranties when such action is necessary.

Huck shall not be liable for any loss or damage resulting from delays or nonfulfillment of orders owing to strikes, fires, accidents, transportation companies or for any reason or reasons beyond the control of the Huck or its suppliers.

Huck Installation Equipment:

Huck International, Inc. reserves the right to make changes in specifications and design and to discontinue models without notice.

Huck Installation Equipment should be serviced by trained service technicians only.

Always give the Serial Number of the equipment when corresponding or ordering service parts.

Complete repair facilities are maintained by Huck International, Inc. Please contact one of the offices listed below.

Eastern
One Corporate Drive Kingston, New York 12401-0250
Telephone (845) 331-7300 FAX (845) 334-7333

Outside USA and Canada
Contact your nearest Huck International Office, see back cover.

In addition to the above repair facilities, there are Authorized Tool Service Centers (ATSC's) located throughout the United States. These service centers offer repair services, spare parts, Service Parts Kits, Service Tools Kits and Nose Assemblies. Please contact your Huck Representative or the nearest Huck office listed on the back cover for the ATSC in your area.

Alcoa Fastening Systems

One Great Connection[SM]

A Global Organization

Alcoa Fastening Systems (AFS) maintains company offices throughout the United States and Canada, with subsidiary offices in many other countries. Authorized AFS distributors are also located in many of the world's Industrial and Aerospace centers, where they provide a ready source of AFS fasteners, installation tools, tool parts, and application assistance.

Alcoa Fastening Systems world-wide locations:

Americas

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Tucson Operations
3724 East Columbia
Tucson, AZ 85714
800-234-4825
520-747-9898
FAX: 520-748-2142

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